

Doc Code: AP.PRE.REQ

PTO/SB/33 (07-05)

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Docket Number (Optional)

5649-1194

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Signature

Typed or printed name **Kirsten S. Carlos**

Application Number

10/692,578

Filed  
10/24/2003

First Named Inventor

Se-Ho Lee

Art Unit

2814

Examiner

Pham, Long

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

 applicant/inventor. assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96) attorney or agent of record. 44,635  
Registration number \_\_\_\_\_. attorney or agent acting under 37 CFR 1.34.  
Registration number if acting under 37 CFR 1.34 \_\_\_\_\_.

Signature

Robert N. Crouse

Typed or printed name

919/854-1400

Telephone number

November 21, 2007

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.  
Submit multiple forms if more than one signature is required, see below\*.

\*Total of 1 forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**RESPONSE UNDER 37 C.F.R. 1.116  
EXPEDITED PROCEDURE  
EXAMINING GROUP 2814**

Attorney Docket No. 5649-1194

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Se-ho Lee Group Art Unit: 2814  
Serial No.: 10/692,578 Examiner: Long Pham  
Filed: October 24, 2003 Confirmation No.: 9027  
For: PHASE CHANGEABLE LAYERS INCLUDING PROTRUDING  
PORTIONS IN ELECTRODES THEREOF

Date: November 21, 2007

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**REASONS IN SUPPORT OF APPELLANT'S PRE-APPEAL BRIEF  
REQUEST FOR REVIEW**

Sir:

This document is submitted in support of the Pre-Appeal Brief Request for Review filed concurrently with a Notice of Appeal in compliance with 37 C.F.R. 41.31 and with the rules set out in the OG of July 12, 2005 for the Appeal Brief Conference Pilot Program.

No fee or extension of time is believed due for this request other than those submitted with the petition for extension of time filed concurrently herewith. However, if any further fee or extension of time for this request is required, Appellants request that this be considered a petition therefor. The Commissioner is hereby authorized to charge any additional fee, which may be required, or credit any refund, to our Deposit Account No. 50-0220.

Appellant hereby requests a Pre-Appeal Brief Review ("Request") of the rejections of the claims in the Final Office Action mailed August 21, 2007 ("Final Action"). This Request is provided herewith in accordance with the rules set out in the OG dated July 12, 2005.

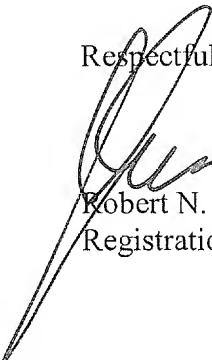
Claims 1 and 3 stand rejected under 35 U.S.C. section 102 over U.S. Patent No. 5,831,276 to Gonzalez et al. ("Gonzalez"). *Final Action, page 2.* Appellant acknowledges the Examiner's interpretation of the sloped conformal layers (element 32 in Figure 12a of Gonzalez) as the claimed "side wall of the recess." However, Appellants respectfully point out that the calcogenide layer 32a of Gonzalez does not contact the bottom electrode within confines of the recess," as recited in Claim1.

As described in Appellant's disclosure:

[A] phase changeable layer is extended (or protrudes) into the bottom electrode to a depth. Therefore, the phase changeable memory cell may have electrical contact with the bottom electrode in three dimensions. For example, a side wall of a phase changeable layer formed in a contact hole that extends beyond a boundary with the bottom electrode to a depth into the bottom electrode, can provide increased surface contact between the electrode and the phase changeable layer. Such an increased contact surface can allow heat transmission from the side wall contact as well as heat transmission from the bottom contact to supplement a heat loss at the edge region of the contact surface and reduce temperature difference between the edge region and the central region of the contact surface. Therefore, it may be possible to reduce the likelihood that the state of the phase changeable layer may not change from an amorphous state or a crystalline state due to heat loss at the edge region of the contact surface.

In light of the foregoing, Appellant respectfully requests that the present application be reviewed and the rejections be reversed by the appeal conference prior to the filing of an appeal brief.

Respectfully submitted,



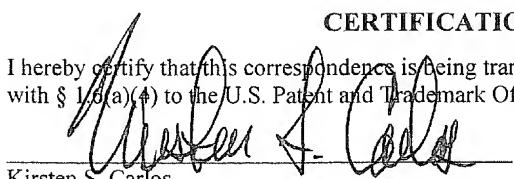
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In re: Se-ho Lee  
Serial No.: 10/692,578  
Filed: October 24, 2003  
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**CERTIFICATION OF TRANSMISSION**

I hereby certify that this correspondence is being transmitted via the Office electronic filing system in accordance with § 1.8(a)(4) to the U.S. Patent and Trademark Office on November 21, 2007.

  
Kirsten S. Carlos